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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,179	09/08/2006	Aulis Vakkilainen	1003277-000057	2229
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EXAMINER DUONG, THANH P				
ART UNIT 1797		PAPER NUMBER		
NOTIFICATION DATE 05/25/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com  
offserv@bipc.com

### Office Action Summary

**Application No.**

10/553,179

**Applicant(s)**

VAKKILAINEN ET AL.

**Examiner**

TOM P. DUONG

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-55 is/are pending in the application.
- 4a) Of the above claim(s) 52-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/22)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I (claims 31-51) in the reply filed on March 1, 2010 is acknowledged. The traversal is on the ground(s) that each of the groups include the same or corresponding special technical features. This is not found persuasive because the groups lack the special technical features as required under 35 U.S.C. 121 and 372.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 31-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Number 04-279714 (hereinafter JPN '714) in view of Sekine et al. (5,997,829) and EP 0298943.

Regarding claims 32-33, 35-39, and 41-51, JPN '714 discloses a corrugated mesh sheet for treating exhaust gases of combustion engines in open channels, comprising wires, which are covered and openings (Figs. 1-7) with catalyst.

JPN '714 is silent with respect to a support having a median pore size of pores over 10 nm and having a median particle size over 1.4  $\mu\text{m}$  and having an area mass of said support from 20 to 200 g/m<sup>2</sup>.

Sekine et al. teaches that it is conventional to provide the porous sheet material with flat and corrugated sheets (Fig 6A and 6B) with a support with a specific surface area of 20 m<sup>2</sup>/g (Col. 6, lines 38-48), and loading density of 30 g/m<sup>2</sup> (Example 7) and support material of alumina (Col. 3, lines 37-45), and a particle size of 0.1 to 10  $\mu\text{m}$  to enhance the efficiency of the purifying material (Col. 6, lines 38-48 and Col. 4, lines 20-23). In addition, in order to support a particle size of 0.1 to 10  $\mu\text{m}$ , Sekine et al. appears to disclose a median pore size of the claimed invention.

EP '943 also discloses that it is desirable to provide the catalytically active material with a specific surface area of 70-250 m<sup>2</sup>/g.

Thus, it would have been obvious in view of Sekine et al. and EP '943 to one having ordinary skill in the art to optimize the mesh sheet of JPN '714 with the pore size, particle size, and specific surface area as taught by Sekine et al. and EP '943 in order to provide a mesh sheet with optimum filtering efficiency.

Regarding claim 34, it is conventional to provide the mesh sheet with the mesh size of 30 to 300 and it would have been obvious to do so here to facilitate in supporting the catalytically active material.

Regarding claim 40, the recitation with respect to the support is "milled" is direct to product by process limitation, and product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even through the prior product

was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOM P. DUONG whose telephone number is (571)272-2794. The examiner can normally be reached on 8:00AM - 4:30PM (IFP).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tom P. Duong/  
Primary Examiner, Art Unit 1797